UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,854	11/19/2001	John Teloh	SMQ-082CN2/P6396CNT1	9383

959	7590	08/11/2006	EXAMINER

LAHIVE & COCKFIELD
28 STATE STREET
BOSTON, MA 02109

ABEL JALIL, NEVEEN

ART UNIT	PAPER NUMBER
2165	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>19 May 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-31* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-2, 4-8, 11, 13, 15, 18-20, 22-26, 29, and 31* is/are rejected.

7) ☒ Claim(s) *3,9,10,12,14,16,17,21,27,28 and 30* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some * c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   In view of the Appeal Brief filed on 19-May-2006, PROSECUTION IS HEREBY

REOPENED. *A new ground of rejection is* set forth below.

To avoid abandonment of the application, appellant must exercise one of the following

two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37

CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a

supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or

other evidence are permitted. See 37 CFR 1.193(b)(2).

2.   Status of the claims: claims 1-31 are pending.

Claim Objections

3.   Claims 1, 4, 5, 13, 19, 20, 23, 25, 26, and 31 are objected to because of the following

informalities:

Claims 4, 13, 25, and 26, recite, "in order to" and *"for* a data"/*"for* replicating"/*"for*

storage"/*"for* transport" in various lines, which constitute intended use. It raises the possibility of

not having it be a requirement of the invention and it can be an optional choice for

implementation and thus making the recitation following not carry patentable weight. Since if the

choice is made not to "for" the condition data in obtaining retrieval information. Then none of

the steps following have to actually take place. Claims should be amended to add definition of

such condition data or active functionality tied to the condition data (i.e. "to", "is", "wherein" or

"that" or "based on" or "replicating"). Appropriate correction is required.

Claim 13, appears to be missing semicolon to separate the preamble from the body of the

claim. Correction is required.

Claims 1, and 19, line 7, recite an "if" statement which suggest optionally, passive

recitation. If the Applicant intended to have the remaining limitations after the "if" statement to

be considered fully and given complete patentable weight. The "if" recitation should be changed

to recite more firm and definite language (i.e. wherein). Since "if" statement is optional, the

remaining limitation does not necessarily have to happen (i.e. the presentation of document).

Appropriate correction is required.

The recitations of "cannot be" and "can be" in, claims 1, 5, 19, 20, 23, 25, and 31,

indirect, passive, and suggesting optionally, and therefore which renders any recitation claimed

after not be given patentable weight since it never has to happen. Claims should be amended to

recite more positive and direct language such as "will", "is", "which" or "that". Appropriate

correction is required.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5.   Claims 1-2, 4-8, 11, 13, 15, 18-20, 22-26, 29, and 31 are rejected under 35 U.S.C. 102(b)

as being anticipated by Kern et al. (U.S. Patent No. 5,870, 537).

        As to claims 1, 19, and 31, Kern et al. discloses in a storage network, a method to update

a first replica held by a physically remote storage device in said storage network, said method

comprising the steps of:

        instructing a first data replication facility of a first electronic device in said storage

network to log one or more writes to a local storage device when said first replica held by said

physically remote storage device cannot be updated due to a detected error condition in the

storage network (See Figure 7, 715, 720, and 725);

        determining at said first electronic device if said detected error condition still exists in the

storage network that prevents updating of said first replica held by said physically remote storage

device (See Figure 7, 745, stop write);

        instructing said first data replication facility of said first electronic device to replicate

data corresponding to the one or more writes identified in said log to generate a second replica

upon determination by said first electronic device that said first replica held by said physically

remote storage device can be updated due to a removal of said detected error condition that

prevents updating of said first replica held by said physically remote storage device (See

Abstract, also see column 5, lines 10-35); and

outputting said second replica in accordance with a communication protocol from said

first electronic device to a second data replication facility of a second electronic device of said

physically remote storage device in said storage network to update said first replica (See column

6, lines 15-39).

As to claims 2, and 20, Kern et al. discloses further comprising the step of, identifying to

said first data replication facility of said first electronic device which of said one or more writes

to said local storage device should not be logged when said physically remote storage device

cannot be updated (See Figure 7, 745, stop write).

As to claims 4, and 22, Kern et al. discloses further comprising the step of, instructing

said first replication facility of said first electronic device to prompt an operator of said first

replication facility in order to obtain authorization for said output of said second data replica to

said second data replication facility of said second electronic device to update said first replica

(See column 6, lines 15-39).

As to claim 6, Kern et al. discloses comprising the step of, instructing said second

replication facility of said second electronic device to log said one or more writes to a second

local storage device of said second electronic device (See column 6, lines 15-39).

As to claims 7, and 25, Kern et al. discloses further comprising the steps of:

detecting an available communication link in said storage network between said first

electronic device and said second electronic device to transport data between said first electronic

device and said second electronic device (See Figure 2); and

prompting said system operator to select a primary replication facility and a secondary

replication facility from amongst said first replication facility of said first electronic device and

said second replication facility of said second electronic device (See Figure 5);

upon selection by said system operator, instructing said primary replication facility to

generate said second replica of data identified in said log (See abstract); and

instructing said primary replication facility to output said second replica for transmission

to said secondary replication facility via said available communication link to update said first

replica (See Figure 8, 880).

As to claims 8, 15, and 26, Kern et al. discloses comprising the step of, forwarding from

said first data replication facility of said first electronic device to said second data replication

facility at said second electronic device information identifying a storage location on said

physically remote storage device for storage of said second replica (See column 11, lines 1-12).

As to claims 11, 18, and 29, Kern et al. discloses wherein said first electronic device and

said second electronic device operate without a volume manager facility (See column 12, lines

60-63).

As to claim 13, <u>Kern et al.</u> discloses in a computer network having a plurality of programmable electronic devices, wherein each of said plurality of programmable electronic devices operates as a host device for a data replication facility for replicating data among said plurality of programmable electronic devices, said method comprising the steps of:

instructing each said data replication facility of each of said plurality of programmable electronic devices to enter a logging routine should said host device of said data replication facility, wherein said logging routine halts said replicating of data by said replication facility of said host device and said replication facility of said host device identifies in a log each local write of said host device that detect said communication link failure (See Abstract, also see column 5, lines 10-35, and see column 13, lines 40-55); and

instructing each said data replication facility of each of said plurality of programmable electronic devices that initiated said logging routine to generate a replica for each said local write identified in said log upon reestablishment of said communication link (See column 14, lines 6-24).

As to claim 24, <u>Kern et al.</u> discloses comprising the steps of, detecting a communication link failure in said storage network between said first programmable electronic device and said second programmable electronic device (See Figure 5); and

instructing said second replication facility of said second programmable electronic device to enter said first state to log one or more writes to a second local storage device coupled to said second programmable electronic device (See column 6, lines 30-39).

Allowable Subject Matter

6.   Claims 3, 9-10, 12, 14, 16-17, 21, 27-28, and 30 are objected to as being dependent upon

a rejected base claim, but would be allowable if rewritten in independent form including all of

the limitations of the base claim and any intervening claims.

Response to Arguments

7.   Applicant's arguments with respect to claims 1-31 have been considered but are moot in
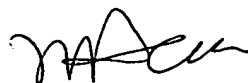
view of the new ground(s) of rejection.

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Neveen Abel-Jalil whose telephone number is 571-272-4074.

The examiner can normally be reached on 8:30AM-5: 30PM EST.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jeffrey A. Gaffin can be reached on 571-272-4146. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Neveen Abel-Jalil
August 7, 2006

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER